

WHAT IS CLAIMED IS:

1. A network simulation system for simulating network characteristics, comprising:

5 a record module that resides on a server and records network characteristics;

a data collector file that stores the recorded network characteristics for playback on a playback machine.

10 2. The network simulation system of claim 1, wherein the record module comprises a filter that captures network data from a host environment.

15 3. The network simulation system of claim 2, wherein the filter is a global filter.

4. The network simulation system of claim 2, wherein the filter is implemented into an operating system of the server.

20 5. The network simulation system of claim 4, wherein the filter is implemented between a port handling module, which scans a port for incoming network data, and a processing module, which processes the network data.

25 6. The network simulation system of claim 1, wherein the record module comprises a log restriction/rolling module that is capable of limiting a size of the data collector file that stores the recorded network characteristics.

7. The network simulation system of claim 6, wherein the log restriction/rolling module limits the size of the data collector file by at least one of: (a) deleting at least a portion of the data collector file; (b) moving at least of portion of the data collector file to another machine.

5

8. The network simulation system of claim 1, wherein the data collector file comprises a log file, which stores header and tracking information, and a data file, which stores other types of data.

10

9. The network simulation system of claim 8, further comprising a caching module that caches at least a portion of incoming network data and subsequently writes the cached data to the log file.

15

10. The network simulation system of claim 1, further comprising a playback module that resides on the playback machine and plays back the recorded network characteristics.

20

11. The network simulation system of claim 10, wherein the playback machine is a client and the recorded network characteristics are played back to a testing server.

25

12. The network simulation system of claim 10, wherein the playback module comprises a data collector file reader that reads at least a portion of the recorded network characteristics stored in the data collector file.

13. The network simulation system of claim 12, wherein the data collector file comprises a log file, which stores header information, and data file, which stores other network data.

14. The network simulation system of claim 11, wherein the testing server is connected to at least one other client and the playback module comprises a controller and a controller mapping table that determines to which client the testing server should send a played back request.

5  
15. The network simulation system of claim 11, wherein the testing server is connected to at least one other client and each client 10 comprises a client mapping table that is used to time out a user.

16. A network simulation system for playing back recorded network characteristics, comprising:  
15 a data collector file that contains network data that has been recorded on a recording server; and  
a playback module that resides on a playback machine and plays back the data collector file;  
wherein the network data is sent by the playback to a testing server to simulate network characteristics on the testing server.  
20

25  
17. The network simulation system of claim 16, wherein the network data includes header data and the data collector file comprises a log file, which stores the header data, and a data file, which stores the remainder of the network data.

18. The network simulation system of claim 16, wherein the playback machine is a client machine in communication with the testing server.

19. The network simulation system of claim 18, wherein the playback module comprises a data collector file reader capable of accessing the network data within the data collector file.

5           20. A method of simulating computer network characteristics on a testing server, comprising:  
                        recording network data on a recording server;  
                        storing the recorded network data; and  
                        playing back the recorded network data on a playback  
10                 machine in communication with the testing server.

15           21. The method of claim 20, wherein recording comprises capturing the network data from a host environment of the recording server.

22. The method of claim 21, wherein recording further comprises caching the captured network data prior to storing the network data.

20           23. The method of claim 22, wherein the network data comprises header data and body data and network data is cached until all the header data has been captured.

25           24. The method of claim 20, wherein the network data comprises header data and body data and the recorded network data is stored in a data collector file comprising a log file, which stores the header data, and a data file, which stores the body data.

25. The method of claim 24, wherein the header data is cached until all of the header data has been recorded and the cached header data is stored in the log file.

5 26. The method of claim 24, wherein recording comprises assigning a unique value to each user in communication with the recording server to identify the user.

10 27. The method of claim 26, wherein the unique value is stored in the log file.

15 28. The method of claim 20, further comprising tracking network information from the recording server.

20 29. The method of claim 28, wherein the network information includes at least one of: (a) a user that sent a request; (b) what time a request was sent by a user; (c) when a socket was opened; (d) when a socket was closed; (e) a status code of the recording server.

25 30. The method of claim 20, wherein the playback machine is a client machine.

31. The method of claim 30, wherein the testing server is in communication with a second client and playing back comprises using a controller mapping table to assign a user to a client such that all recorded network data from the user is played back on the same client.

32. The method of claim 30, wherein the client machine can simulate multiple users by playing back the recorded network data.

33. A computer-readable medium having computer-executable instructions for performing the method recited in claim 20.

5           34. A method of recording network characteristics, comprising:  
                 providing a server having an operating system;  
                 registering a filter residing on the server with the operating  
system;  
                 using the filter to capture network data containing the network  
10          characteristics; and  
                 storing the captured network data in a data collector file for  
playback.

15           35. The method of claim 34, wherein the filter is a global filter and  
the global filter is implemented within the server operating system.

20           36. The method of claim 34, wherein the network data comprises  
header data and the data collector file comprises a log file that stores  
header data and a data file that stores any remaining network data.

25           37. The method of claim 36, wherein captured header data is  
cached in memory prior to be stored in the log file.

38. The method of claim 37, wherein the captured header data is  
25          cached until all the header data has been received and then the header  
data is stored in the log file and any remaining network data is stored in the  
data file.